RESPONSE TO COMMENT SET 1: CALIFORNIA COASTAL COMMISSION

Letter dated April 6, 2005

1-1. Required approvals, including actions from federal agencies, are listed in Table 2.7-1 of the Draft EIR/EIS. In addition, applicable federal, State, regional, and local regulations are described in the "Regulatory Setting" discussions within each impact area in Sections 4.1 through 4.9, respectively, of the Draft EIR/EIS. The scope of Section 1.4 has been revised and content added to provide the suggested information at this location. Please refer to Section 4 of this document.

1-2. The information provided in the comment on the Coastal Act and CDP authority has been added to Section 1.4.6 within Section 4.

1-3. The bulleted items listed in Section 2.4 of the Draft EIR/EIS are measures that the Applicant has committed in their applications to the Lead Agencies to implement to avoid or minimize potential environmental impacts during installation and operation of the proposed Project. Therefore, they were considered, for purposes of the environmental analysis, to be part of the description of the Project.

A spill prevention plan already exists for the cable laying vessel *Ile de Ré*. This plan, referred to as a Non-Tank Vessel Contingency Plan, describes procedures to be followed in the event of a spill from the vessel and has been approved by the U.S. Coast Guard. A copy of this plan was submitted with the application for the proposed Project and was used by the EIR/EIS preparers in the evaluation of project impacts. Unfortunately, this plan was too large to append to the Draft EIR/EIS. In addition, the Applicant's HDD contractor prepared a plan entitled "Drilling Fluid Monitoring and Remediation for Horizontal Directional Drilling", which is included in Appendix H of the Draft EIR/EIS.

1-4. The proposed Project, if approved, will be governed by the same monitoring requirements as are within existing fiber optic cable leases with the California State Lands Commission (CSLC). Such leases provide: 1) within 90 days of acceptance by the Lessee of the work as complete from the contractor, a copy of a Post Lay Burial Report and as-built cable coordinates; 2) initial re-survey of cable burial within 18-24 months of cable installation; 3) a second re-survey of cable burial within 18-24 months of the completion of the initial re-survey; and 4) continuing re-surveys of cable burial at intervals to be determined by the CSLC

based on the results of the two initial re-surveys. In addition, the leases provide for additional inspections of the cable that would be conducted, irrespective of time intervals, under specified conditions, e.g., subsequent to a seismic event and upon confirmation that fishing gear has become entangled with the cable. Cable monitoring requirements would be conditions on permits issued by the Lead Agencies.

1-5. Please refer to Section 4.7.2 of the Draft EIR/EIS that describes the means of notifying mariners of the cable laying activities, including publication of a notice in the U.S. Coast Guard's *Local Notice to Mariners*. In addition, the Applicant will notify the Moss Landing Harbor District to ensure they are aware of the timing of the cable laying operations and will work with the District to provide notice of the cable laying operation to vessels that operate out of Moss Landing Harbor (see Section 2.4 of the Draft EIR/EIS). Section 4.7.2 also describes Navigation Rules that apply specifically to vessels with restricted ability to maneuver, which includes cable laying vessels. For example, the Cable Act of 1992 (47 CFR §76) states that other vessels must maintain a 1.15-mile (1-nm) separation from a vessel laying or repairing an undersea cable. In addition, the International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608) requires vessels restricted in their ability to maneuver to display appropriate day shapes or lights.

1-6. The Applicant relied on detailed geophysical and burial assessment surveys prepared by Fugro Seafloor Surveys, Inc. to select a route that maximizes cable burial. Lines 24 through 35 of the Draft EIR/EIS provide information about the percentage of the proposed route that would be buried (76 percent) and where the substrate morphology of area prevents burial. Figure 4.2-2 on page 4.2-6 of the Draft EIR/EIS shows the historical frequency of trawl intensity in relation to the proposed cable route, including the unburied portions (yellow and red).

In areas where the cable cannot be buried by the plow, the cable would be laid on the sea bottom and would be post-lay buried by jetting using a ROV, where feasible. The post-lay inspection and burial program, described in Section 2.2.5 of the Draft EIR/EIS, is designed to maximize cable burial and to reduce the risk to the exposed cable.

The Applicant and representatives of local fishermen's organizations have been involved in discussions regarding the establishment of, for example, reimbursement provisions for fishing gear that is lost or damaged by interactions

with the proposed cable. At the time of publication of this Final EIR/EIS, these discussions were still ongoing.

The two items mentioned in the comment, maximum feasible cable burial and reimbursement for lost or damaged fishing gear, would be addressed not in the Mitigation Monitoring Program but within the proposed lease from the CSLC. Burial of the cable (minimum 75 percent) is part of the Project description, and no significant impact has been identified that would require implementation of a reimbursement agreement as mitigation. However, the CSLC has made establishment of such an agreement a standard condition of lease approval for past submarine cable projects and anticipates that such a condition will be recommended for the proposed Project.

1-7. Under the National Historic Preservation Act, information about cultural resource sites may be withheld from the public if disclosures could pose a risk to the resource. Cultural resource site records are therefore typically not made available to the general public to avoid providing information that could lead the sites to be vandalized or plundered. However, this information may be made available to the professional archaeological community as well as permitting agencies. Permitting agencies, including the California Coastal Commission, are allowed access to the cultural resources site data upon request.

1-8. Mitigation Measure CR-1 would be implemented prior to construction as an action under the Mitigation Monitoring Program (MMP). While the probability of identifying an unknown, potentially significant archaeological resource along the proposed cable route is extremely low, Mitigation Measure CR-1 has been included in the EIS/EIR as a precautionary action to help ensure that no potentially significant impacts occur. These types of precautionary measures are common practice for cultural resource impacts in circumstances where there is no recorded evidence of a cultural resource site, but the potential exists for encountering a previously unknown site.

Section 106 of the National Historic Preservation Act (NHPA), as amended, requires federal agencies to take into account the effects of their undertakings on historic properties, i.e., cultural resources that are listed in or potentially listed in the National Register of Historic Places, and afford the Advisory Council for Historic Preservation (ACHP) an opportunity to comment. By way of this EIR/EIS and two letters to the California State Historic Preservation Officer (SHPO), dated March 4, 2005, and May 4, 2005, the CSLC and MBNMS, as Lead Agencies for the proposed Project, have initiated consultation under Section 106 of the NHPA.

The SHPO reference number for the Project is NOAA050527A as allowed under 36 CFR Part 800.8(c), Use of the NEPA process for section 106 purposes. The Lead Agencies will follow the guidance provided by the ACHP and SHPO regarding this potential impact.

1-9. The U.S. Geological Survey (USGS) calculates that the average geologic slip rate on the San Gregorio Fault is about 5 mm/year; however, this is very uncertain because the outcrops are all underwater and offset is hard to date. In its worst-case scenario, the USGS indicates that the largest magnitude earthquake that could strike this fault would be 6.8 on the Richter scale. The probability of an earthquake of this magnitude over the entire lifetime of the MARS cable is 8 percent. It is extremely difficult to calculate the amount of slip in the event of earthquake because it depends on the slip distribution along the fault, e.g., uniform along the entire 27.3-mile (44-km) rupture length or concentrated in a small area that would unfortunately coincide with the location of the cable. On average, 1.6 feet (0.5 meters) of slip would be expected if the entire fault were to rupture and the slip was evenly distributed along the entire length.

In the fault areas where the cable cannot be buried, the slack provided to minimize suspensions would readily accommodate a 1.6-foot (0.5-meter) fault slip. In fault areas where the cable can be buried, the risks of making a surface loop that could entangle fishing gear while attempting to install a Z-shaped section of buried cable is more unacceptable than assuming the 8 percent risk of such an event affecting the buried cable over the lifetime of the Project. Cable loops may also increase the potential for entanglement by marine mammals.

1-10. As discussed in Section 4.4.4 of the Draft EIR/EIS, shallow seismic reflection data indicate that nearshore sediments in Monterey Bay consist of weakly consolidated sands and unconsolidated sands and gravels, which could be prone to frac-outs. The Draft EIR/EIS acknowledges that although there is a potential for an inadvertent release of drilling fluids to occur, no significant impacts to marine resources would be expected. Notwithstanding, the tentatively proposed drilling depth of approximately 50 feet (15 meters) below the seafloor has been chosen to hinder the release of drilling mud to the surface while remaining above relatively unknown subterranean sediments or rock formations that would adversely affect HDD operations and that may occur at greater depths.

Subsequent to the publication of the Final EIR/EIS, the Applicant provided additional information to the Coastal Commission on May 26, 2005, to support

the proposed drilling depth in response to a letter from the Coastal Commission identifying the need to provide additional geotechnical information for the proposed drill alignment. The material provided by the Applicant included a review of current geologic information of the Monterey Bay, a review of numerous geotechnical investigations, an inspection of seismic reflection data from the area overlying the proposed drill alignment, and the results of engineering discussions with the proposed drilling contractor Environmental Crossing, Inc.

The review conducted by the Applicant's registered engineer identified that the headward portion of the drill alignment consists of aromas sands, purisma sandstone, alluvial deposits, and marine sediments. Under the proposed drill depth, the drill head would be located in alluvial deposits and aromas sands. These materials do not fracture when impacted by drilling augers. On June 17, 2005, the Applicant indicated that a preliminary review of the material by Coastal Commission geologist Mark Johnson found that the proposed drill depth was acceptable.

The proposed drilling depth is also similar to other HDD operations completed along the California coastline at a borehole depth of 50 feet (15 meters) below the seafloor. Recent, successfully completed HDD projects along the California coastline include AT&T (China U.S. and Japan U.S.), Global West, and Tyco/Hermosa Beach. These projects resulted in very limited, small quantity frac-outs, e.g., less than one barrel, or 42 gallons, of released drilling mud. Intensive monitoring on these projects, similar to that for the proposed Project, resulted in immediate cessation of drilling, complete dispersal of the frac-out plume within several hours, and successful completion of the bore.

In addition, as further discussed in Section 4.6 of the Draft EIR/EIS, the analysis conducted in the Draft EIR/EIS (Impact MAR-2) indicates that no significant long-term impacts on water or sediment quality would occur as a result of an inadvertent release of drilling mud into the environment. The potential for significant losses of drilling fluids to the environment would be further minimized through several measures that are described in Section 2.2.6, Section 2.4, and Appendix H of the Draft EIR/EIS.

The "Shore Landing Options and HDD Documentation" report was developed by the Applicant's HDD contractor as a description of the steps to be undertaken in HDD for the proposed Project. The information from this report was incorporated into the Draft EIR/EIS in Section 2.2.6.

1-11. As described in Section 2.3, cable-laying operations will occur 24 hours per day. During nighttime cable-laying operations, marine mammal monitors will make observations using low-light binoculars and night vision equipment. All the protocols for marine mammal observations during cable installation and removal activities will be contained in the Marine Mammal Monitoring Plan to be developed by the Applicant. The development and implementation of the Marine Mammal Monitoring Plan has been added to Section 6.5 of the Draft EIR/EIS in Table 6.5.2, Monitoring Program for Applicant-Proposed Mitigation Measures.

1-12. If a marine mammal is injured, the 24-hour marine mammal rescue line for Monterey County of the Marine Mammal Center shall be called to summon trained professionals in marine mammal care and rehabilitation. That number is (831) 633-6298. If a marine mammal is killed, MLML shall be contacted at (831) 771-4422. These entities report marine mammal injuries and deaths to the National Marine Fisheries Service (NMFS) on a monthly basis. However, the NMFS stranding coordinator, Joe Cordaro, also should be informed at the time of the incident. His direct phone number is (562) 980-4017. The Applicant has also indicated that prior to cable installation, MBARI will meet with the local marine mammal rescue society, inform them of its plans, and discuss points of contact and procedures to be followed in case of an accident. These procedures and all other protocols required by the State and federal authorities will be contained in the Marine Mammal Monitoring Plan (see the response to Comment 1-11 above and Section 4).

1-13. According to the Applicant, if fishing gear were entangled with the cable, the Applicant would, within three days, attempt to attach a recovery line to the snagged gear using its remotely operated vehicles (ROVs). If the ROVs are unsuccessful, the location would be marked with a buoy to allow a vessel with a winch to recover as much of the gear as possible for disposal. The timing of actual recovery by vessel would depend on the schedule of the Applicant's two winch-equipped vessels, the *Western Flyer* and *Point Sur*. Recovery would be accomplished within one month. If fishing gear were entangled with the cable in such a way that that there was a probability of significant damage to the cable if a recovery were attempted, and all efforts to disentangle the cable failed, the fishing gear would be left in place, but rendered incapable of continuing to harvest marine resources.

1-14. As described on page 4.5-7 of the Draft EIR/EIS, the amount of hard bottom along the cable route (where burial is infeasible) totals approximately 5.6 miles (9 km or 18 percent of the route. This does not include an additional 1.8 miles (3

km) of dense sand and mixed bottom where only partial burial is feasible. However, if the 1.8 miles (3 km) of dense sand/mixed bottom is also considered to be "hard bottom," i.e., infeasible for cable burial, and added to the 5.6 miles (9 km) of hard bottom, this would result in a worst-case estimate of 7.4 miles (12 km) of "hard bottom." The potential for cable movement, i.e., strumming, would only occur in areas where the unburied cable is proposed to be placed on hard bottom ocean floor areas. Since the cable is 1.1-inch (2.8-cm) wide and assuming surface laying of the cable in these areas, the total square footage of habitat that might be affected by strumming would be 3,617 square feet (0.08 acres). For the reasons stated in Response 1-15 below, strumming would be minimized in these areas.

1-15. There are several scarps leading onto Smooth Ridge where the sediment hardness would not allow the cable to be buried. The cable route has already been selected to minimize the number and height of these scarps based on the video surveys made by MBARI in 2003. The scarps, numbering between 30 and 40, are between 1 foot and 4 feet (0.3 - 1.2 meters) in height. MBARI has indicated that it would utilize state-of-the-art cable-laying practices to minimize the potential for strumming and suspension of the cable at these locations by providing slack during the cable-laying process. The cable-laying vessel has dynamic positioning capabilities and is able to maintain appropriate tension for controlling the plow and laying the cable. The plow is steerable and equipped with sensors, a sonar system, and forward lighting and television. Software is used to model the curve of the cable and estimate the required slack. The installation methods proposed for this Project also include the use of ROVs to move the cable into more "favorable" positions in hard bottom areas and the careful addition of slack in the cable to avoid or minimize suspensions (see Section 2.4 of the Draft EIR/EIS). In addition, the post-lay inspection and burial (see Section 2.2.4 of the Draft EIR/EIS) would confirm the condition of the entirety of the cable after initial installation and use a ROV to attempt burial by jetting in locations where the plow could not accomplish cable burial.

1-16. In areas representing hard bottom habitat where burial would not be feasible (see response to Comment 1-14), some small-scale movement is possible (Kogan et al. 2003). The most comparative data available to estimate effects of strumming for cable placed on hard bottom ocean floor areas is provided in Kogan et al. (2003) for the ATOC cable project off Half Moon Bay (central California). Based on observations of unburied cable from Kogan et al. (2003), the worst-case estimate for strumming is up to 15.7-inches (40-cm) in width. This would equate

to 51,339 square feet (1.18 acres) over the 7.4 miles (12 km) of hard bottom and dense sand/mixed habitat along the MARS cable route. However, it is unlikely there would be substantial cable movement associated with the MARS cable. This is based on the current AT&T post-installation survey of their fiber optic cables off California. Results of recent AT&T surveys indicate that their fiber optic cables (buried and unburied) have not moved since they were installed in 2000. In addition, the MARS cable will be placed in an area of reduced wave action compared to the ATOC cable. Further, the weight and negative buoyancy of the MARS cable, coupled with the fact that most of the cable would be buried, would further reduce the potential for lateral movement.

1-17. Although there are no industry standards that dictate a specific approach to cable installation, the proposed Project cable installation methods proposed are state-of-the-art. In order to minimize the potential for cable suspensions, the use of ROVs is proposed to move the cable into more "favorable" positions in hard bottom areas, and to carefully provide, where necessary, additional slack in the cable to avoid or minimize potential suspensions (see Section 2.4 of the Draft EIR/EIS). As documented by the ATOC cable project (Kogan et al. 2003), unburied cable in hard bottom areas will sometimes have a range of suspensions from scales of centimeters to meters or several meters. However, the proposed MARS cable installation methods would minimize to the extent technically feasible and, where possible, eliminate the number of cable suspensions.

1-18. The citation for the report is:

Burton, Robert K. and J.T. Harvey. 2001. Preliminary report and second report of observations of an injured gray whale encountered while monitoring FOC laying operations at Morro Bay, California. Prepared for CCC, CSLC, NMFS, and San Luis Obispo County, California. January 11 and January 25.

After the incident, the observers recommended that more than one marine mammal monitor be on each vessel to provide better communications and a 360 degree view of the work area. This recommendation has been incorporated into proposed Project (see Section 2.4 of the Draft EIR/EIS).

1-19. Please see Impact NOI-1 on page 4.8-5 of the Draft EIR/EIS. As indicated, HDD activities on land will not transmit underwater noise.

1-20. Both the Cuvier's beaked whale and the Hubbs' beaked whale are extremely rare in the project area (Harvey 2004). Therefore, the probability that they would

come close enough to cable-laying activities to be disturbed by the noise of the plow during the 11 to 14 days that cable laying would occur is extremely low. Cuvier's and Hubbs' beaked whales are deep diving, but relatively little is known about these species. Beaked whales are known to dive to depths of 200 and 2,000 meters. Cuvier's beaked whales off California are generally found in water at least 1,000 meters deep. However, the EIR/EIS preparers could find no specific information about how deep and how long these species dive and suspect it is unknown. Also, no specific information is known about their sensitivity to anthropogenic noise such as would be produced by the proposed cable laying activity. Reaction of toothed whales to anthropogenic noise is variable, and is often dependent on the location, species, age-class behavioral activities and a host of other factors (Richardson et al 1995). Information about the specific effects of noise on beaked whales' behavior is extremely limited and nothing is known specifically about effects on Cuvier's and Hubbs' beaked whales. Most beaked whales appear to be "shy" around vessels and may actively avoid them. Such avoidance behavior may be beneficial because it would reduce the possibility of interactions with cable-laying operations.

1-21. The noise that would be produced by the plow is described on page 4.8-6 (lines 12-14) of the Draft EIR/EIS. The plow would cause a noise level of about 185 decibels (dB) at low frequencies (between 100 and 400 Hertz). Based on available scientific evidence, acoustic harassment of marine mammals is not expected to occur at a sound level below 160 dB. This level has been adopted by the NMFS as an acceptable level of impulsive underwater sound for the protection of marine mammals. The noise of the plow would be expected to attenuate to 160 dB within 100 feet (30.5 meters). The noise level near the 500-foot (152.4-meter) limit depends on the exact depth because noise dissipates more in deeper water. In water less than 500 feet (152.4 meters) deep, the noise level at the 500-foot (152.4-meter) distance from the source would attenuate to about 153 dB and in deeper water it would be about 145 dB. Therefore, marine mammals outside of the 500-foot (152.4-meter) safety zone would not be subjected to acoustic harassment from cable laying operations.

1-22. It is possible that marine mammals that spend a long time underwater could enter the safety zone without being detected by the marine mammal monitors, although deep-diving marine mammals most likely would avoid the work area (M. DeAngelis, National Marine Fisheries Service, personal communication, May 9, 2005). Sonar would be used during the cable installation, which may help to detect deep-diving marine mammals should any enter the area. We know of no

additional practical measures that, in addition to those proposed by the Applicant or listed as mitigation in the Draft EIR/EIS, would improve the ability of the observers to detect deep-diving marine mammals. The Marine Mammal Monitoring Plan will include the most efficient way to safely monitor marine mammals in the project area during installation and removal activities. Although hydrophones possibly could be used to aid in the detection of deep diving marine mammals, they would only be effective if the mammals were making noises. Therefore, the use of hydrophones would not be expected to afford additional protection beyond the mitigation measures proposed.

1-23. Baleen whales are thought to be the most sensitive to low frequency sounds. Baleen whales in the project area include blue whale, fin whale, sei whale, minke whale, Bryde's whale humpback whale, and gray whale. Deep-diving whales that may be in the project area include blue whale, fin whale, Bryde's whale, humpback whale, Pacific right whale, sperm whale, pygmy sperm whale, Baird's beaked whale, Cuvier's beaked whale and Hubbs' beaked whale. As indicated in Impact MBR-4 on page 4.5-25 of the Draft EIR/EIS and Response 1-21 above, the marine sounds generated by the proposed Project, regardless of frequency, will be below the National Marine Fisheries standard outside of the proposed 500-foot safety zone.

1-24. Information on the Coast Act and National Marine Sanctuary Program (NMSP) has been added to the appropriate regulatory setting discussions in Section 4.6.2 in Section 4 herein.

1-25. Section 4.5 of the Draft EIR/EIS addresses marine biological organisms in the project area. Along the Project route, there are two main feeding types of organisms present that might be affected by turbidity and suspended sediments from Project activities: filter feeders and suspension feeders. Over hard bottom habitat, the most common organisms of these types include sponges, anemones, sea fans, cup corals, basket stars, brittlestars, and feather stars. Over soft bottom habitat, the most common organisms of these types are polycheate worms, brittlestars, and sea pens. As detailed on page 4.5-21 of the Draft EIR/EIS, impacts on organisms from turbidity would be short term and localized and would not be different from naturally occurring events, such as bottom feeding fishes and benthic invertebrates disturbing the sediment, to which these organisms are typically exposed. Therefore, no filter-feeding or suspension-feeding organisms would be significantly impacted from temporary exposure to turbidity plumes or suspended sediments during installation or maintenance associated with the proposed Project.

1-26. Hartwell (2004) showed that DDT ($C_{14}H_9Cl_5$) from terrestrial runoff has historically been found throughout Monterey Bay, and DDT and other persistent organic contaminants may be biologically available to deep benthic biota. As described on page 4.6-8 of the Draft EIR/EIS, cable installation activities would temporarily resuspend bottom sediments and create plumes. Contaminants associated with resuspended bottom sediments would remain attached to sediment particles, which would be expected to settle quickly to the seafloor. Plume duration at any one location would be temporary and is not expected to affect adjacent areas. Therefore, temporary resuspension of bottom sediments would not concentrate or increase the bioavailability of these contaminants.

1-27. Please see the response to Comment 1-3 above. On-water containment and recovery would be handled by Alcatel, the owner and operator of the *Ile de Ré*, who will be installing the cable for the Applicant.

1-28. In establishing the scope of issues to be addressed in the EIR/EIS, the Lead Agencies determined that the proposed Project did not have the potential to result in significant impacts on public recreation, either related to access or activities. Therefore, public recreation was not evaluated in detail in the Draft EIR/EIS. The reasoning for this determination is presented in Section 5.7, page 5-6 and 5-7, of the Draft EIR/EIS. The Draft EIR/EIS also discusses, in Section 4.7 beginning on page 4.7-1, the proposed Project's potential impacts on marine vessels, including "recreational vessels".

As to the proposed Project's potential effects on public access, the only shore activities required for construction are the HDD, installation of the Shore Facility, and installation of the cable connecting the Shore Facility to the MBARI facilities. All of these activities would occur within fenced property owned by MBARI that is not presently accessible to the public. Therefore, public access would not be altered under the proposed Project.

For Alternative Landing Area 1, additional shoreline disturbance would occur where the existing Duke Energy pipeline becomes exposed on the eastern side of the jetty located on Jetty Road at Moss Landing State Beach. Public access to a small area of the State Beach would be precluded during HDD for safety reasons associated with the drilling and cable pulling activities, which could last for up to one week. Other areas of the public beach would not be restricted during construction activities. Public access would be fully restored after cable installation.

For Alternative Landing Area 2, minor construction activity would be required to land the cable at the MLML pier and install the cable in an onshore conduit to bring the cable to the MBARI Building C, which would serve as the Shore Facility. As the cable would be landed on the MLML pier, which is not open to public access, rather than the shore, it is unlikely that public access to the shore in the immediate vicinity of the MLML pier would be disrupted while landing the cable.